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JOURNAL
AND
PHOTOGRAPHIC
ENLARGER
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A MAGAZINE OF POPULAR SCIENCE FOR THE LECTURE ROOM AND THE DOMESTIC CIRCLE.
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NOTICES.

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NOTES.

A Merry Xmas to All.

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An Interesting Lantern Audience at Blackburn.—A short time ago a lecture on the subject of "Mountain Building" was given to the aged and infirm by Mr. J. T. Smith, F.G.S. To look over the audience was said to be an interesting sight, for the aggregate years of the audience, which numbered 83 persons, amounted to 6,225 years.

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R.N.M.D.S.F.—The foregoing letters, which are known to many, represent the Royal National Mission to Deep Sea Fishermen, a society to which Messrs. Mason and Thompson, of Newbury, have on several occasions given their gratuitous services in the form of lantern entertainments at Wooten Hill, which have been highly appreciated. The subject given lately was "A Scottish Tour."

Lantern Lectures as a Peg.—The following paragraph lately appeared in the *Eastern Morning News*:—"The Conservative Agent for North Lincolnshire (Mr. J. Abbott) gave a lecture on Monday night in an upper room of the Yarborough Hotel, New Holland, entitled 'A Trip to the South of Ireland,' illustrated with limelight views. The audience numbered about 30. The views were simply a peg on which the lecturer hung a series of violent attacks on Home Rule and the Liberal Party, interspersed with glowing allusions to the 'Empire' and the 'Flag,' and particularly emphasising the necessity for the British lion to stand firm at the present juncture."

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Romance and Reality.—A local paper said:—"The lantern slides, which were exquisitely coloured by artists of high repute, were projected in the form of dissolving views by means of one of the most powerful limelight lanterns in existence." The lanternist himself said:—"I used my single lantern with acetylene gas installation, and obtained a very good effect with ——— dissolving carrier. For the chromo-transfer slides which I used I think the acetylene gas an improvement on the limelight as it hides to a great extent the coarseness which many of the slides possess."

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Exchange Club for Lantern Slides.—The hon. sec. of this club, Mr. J. S. Hawker, Mutley House, Plymouth, will be glad to hear from ladies or gentlemen wishing to join this society. The annual subscription is only 1s.

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London Lectures by the School Board Council.—The Progressive School Board Election Council have arranged for the Autumn and Winter a series of lantern lectures. These deal with the popular and humorous side of the Education question, and some of the less known points in the work of the London School Board are described. The Council will provide the lecturer slides and printing free, leaving those who arrange the lecture to supply the hall, lantern, etc., on condition that part of the hall, at any rate, is free. The syllabus is exceedingly interesting. The lantern slides illustrate the London School Board, its purpose and work, how the children are taught in the schools, what the School Board does for the children, industrial schools, special schools for the deaf and dumb and the mentally deficient. The lectures are non-political and altogether educational. There is an excellent staff of lecturers, among whom may be mentioned:—Mr. Charles Bowden, M.L.S.B., the Rev. Stewart Headlam, M.L.S.B., the Rev. A. Jephson (Vicar of Walworth), Mrs. Maitland, M.L.S.B., Mr. Leslie Johnson, M.L.S.B., and Mr. Dennis Hird. A number of lectures have already been given, which have been exceedingly successful. Those who want further information on the subject should write to Miss Constance Williams, secretary, Surrey House, Victoria Embankment.

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Cruise of H.M.S. "Crescent," etc.—On the 7th, 9th and 11th ult., Messrs. West and Son, of Southsea, gave a lantern and cinematographic entertainment at St. James's Hall, London. The pictures were full of interest, an orchestral band was in attendance, and solos and songs were given during the evenings. Large audiences were present.

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Removal.—Before Christmas it is the intention of Messrs. E. G. Wood to leave the premises at 74, Cheapside, which they have occupied for so many years, and occupy their new buildings at 1 and 2, Queen Street, Cheapside. The new premises, which are very commodious, are practically round the corner from the old establishment.

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A new Military Cinematographic Picture.—When at the offices of Mr. Philipp Wolff, of 9, Southampton Street, W.C., a few days ago, Mr. Hessberg, the manager, informed us that they were about to publish a remarkable cinematographic picture taken in the Soudan by a well-known war correspondent. We give, with permission, an extract from an explanatory letter written to Mr. Woolf:—"The cinematograph film which you have was taken by me on the battlefield of Omdurman the day before the battle. It is the only genuine Soudan film as nobody else had a cinematograph with them. There was a rumour that the dervishes were advancing to attack us, and all the men were told to lie down and be in readiness to fall in for anything. I therefore fixed my camera on the Grenadier Guards (Queen's Company) and when the brigade trumpeter, whom you see in the photograph, sounded the call, I took the men standing up, fixing bayonets, and marching off. . . ." Mr. Wolff is to be congratulated on having the publishing of this valuable film.

Lantern Exhibitions and Ladies' Hats.—A correspondent sends us a long letter on the above subject. When "boiled down" the information is practically as follows:—In certain small halls it is by no means an easy matter to get the lantern disc raised sufficiently to be clear of the elevated plumes, bows, etc., with which the ladies deck their hats, and this he finds particularly inconvenient, especially those plumes which are in the front rows of seats. Our informant explains that he requested several ladies on more than one occasion to remove their hats as the trimmings were showing as shadow pictures at bottom of the disc, but this they refused to do. He then goes on to explain that he is much annoyed at the want of courtesy displayed, especially as he is not giving the exhibitions as a matter of business, and asks our opinion as to his placing a notice to the following effect:—"Ladies are requested to remove their hats; those, however, whose hair and hats are removed at one operation may be allowed to wear them"—at the doors so as to be readily seen by those who enter. He asks, "Don't you think this will fetch them?" The dodge is smart in one sense, and no doubt will "fetch" the hats off, but will not be any great attraction towards "fetching" much of an audience at future entertainments.

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Lanterns in New Zealand.—A correspondent informs us that in many small villages in New Zealand toy lanterns and high-class instruments are classed in the same way, and both appreciated to the same degree.

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The Society of Model Engineers.—Under the foregoing title, a new society has been formed, having for its objects the discussion of matters relating to the construction and working of model engines, dynamos, motors, steam and electric launches, tools, and small mechanical and electrical apparatus generally. The first meeting took place on November 2nd, at the Memorial Hall, Farringdon Street, E.C., Mr. Percival Marshall, A.I.Mech.E., presiding over a gathering of about 50 members and friends. A number of interesting models were exhibited on this occasion, including some small locomotives, a model gas engine, a small high-speed vertical engine, and a variety of model dynamos and motors, several of the latter being shown at work. The annual subscription to the society is 10s. 6d., and the secretary Mr. H. Sanderson, The Mount, Ealing, W., to whom applications for membership should be addressed.

Kodak, Limited.—We learn that all the ordinary and preference shares in Kodak, Limited, were over-subscribed and that within 24 hours after the closing of the application lists the majority of the letters of allotment and regret were posted. The business, we are informed, is prospering to a great extent, for the profits of the combined businesses for the nine months of the present year are considerably more than the total profits for the whole of the previous year.

Death of Mr. George Dickman.—We regret to have to announce the death of Mr. George Dickman, which took place on the 15th ult. Mr. Dickman, who was 52 years of age, was the Managing Director of the Eastman Photographic Materials Company, Limited, and was universally esteemed by all who knew him.

New Cinematographic Regulations.

New regulations respecting the use of cinematograph lanterns, etc., in premises licensed by the London County Council were approved on November 8th. These regulations, which are very stringent, are enumerated below.

(1.) No cinematograph, or other similar apparatus involving the use of a lengthy combustible film, shall be exhibited on premises licensed by the Council, until the Council has been satisfied that all reasonable precautions have been taken against accident and danger to the public.

(2.) Notice of any intended exhibition shall be given to the clerk of the Council by the licensee of the premises in which such exhibition is to be given, and the licensee shall be held entirely responsible for the proper and safe use of the apparatus. Such notice shall be given at least six days before the first day of exhibition. Opportunity shall also be afforded to the Council's inspector of inspecting the apparatus and seeing it at work at least three days, if possible, before the public exhibition takes place, in order to allow time for any necessary alterations to be carried out and approved by the Council before the first public exhibition takes place. A plan shall accompany the original notice to the clerk of the Council, showing the exact position of the apparatus and the surroundings within a radius of 10 feet of the lantern. No gangway or exit must be in anyway affected.

(3.) The cinematograph shall stand in a suitable fire-proof room which shall be entirely enclosed, the floor also being fire-proof. The door shall open outwards and be self-closing. One of the firemen of the establishment shall be in attendance near the apparatus with a wet blanket and two buckets of water. No inflammable material shall be within two yards' distance from the enclosure. The audience and seats shall at no point be less than 8 feet distant from the lantern; the audience being prevented from approaching by a suitable rail or barrier.

(4.) The body of the lantern shall be constructed of wood or other non-conducting material, and shall be coated inside with asbestos; it shall also have an inner lining of sheet iron, and an air space shall be left between the iron and asbestos lining. In the bottom of the lantern shall stand an iron tray, which shall be surrounded by a vertical edge at least 1 inch in depth. The lantern shall be provided with a metal shutter, which shall fall freely between the source of light and the condenser. This shutter shall be immediately dropped in the event of any accident to the apparatus or stoppage of the film, and shall only be raised when the film is in motion for the purpose of projection.

(5.) Where possible the electric arc light shall be adopted as an illuminant, the usual rules for securing safety in an electric installation being observed. Ether and other inflammable liquids shall not be employed under any circumstances for producing light. If limelight be used in the lantern the general regulations for its safety, which are issued by the Council, shall be complied with, and any additional precautions which the Council may deem necessary for securing safety shall also be adopted. The use of acetylene gas is not permitted.

(6.) The space in which the cinematograph stands shall, where possible, be illuminated by electric glow lamps; but a miner's safety lamp may be substituted, if necessary. No naked gas or oil flames, or matches, shall be allowed in the space. The lighting of the hydrogen flame in the lantern shall be accomplished by means of an electric lighter.

(7.) The films, when not actually passing through the lantern, shall be kept enclosed in metal cases. The film which is passing through the lantern shall be rewound, either automatically or by hand, upon another bobbin as fast as it emerges from the lantern front.

(8.) Not less than two, nor more than three, operators shall be engaged within the lantern space, and no other persons shall be within the lantern enclosure during the exhibition. The whole duty of one of the operators shall consist in taking charge of the film after it has passed through the lantern.

(9.) The licensee shall be held responsible for the employment of competent, experienced and trustworthy operators, and shall be prepared at any time to supply to the Council satisfactory credentials in this respect.

(10.) Smoking within the lantern space shall be absolutely forbidden at all times.

(11.) The Council reserves to itself the right of modifying any of the above regulations and of requiring the adoption of any further precautions, in addition to those specified above, as circumstances may require.

C. J. STEWART,
Clerk of the Council.

The Kaleidoscope.

THE kaleidoscopic attachment for a lantern, while capable of giving pretty effects, is for some reason or other seldom met with, although it may be obtained from, or at least through, any dealer in lantern apparatus in a compact form and in mahogany case for less than a couple of Pounds.

This instrument is by no means a difficult one to make. Cut two strips of looking glass, say about 7 inches long and 2 or 3 inches wide at one end and an inch smaller at the other; these two pieces of glass can now be fixed say by means of pieces of cork in brass or cardboard tubing, but in fixing them it is necessary that the angle at which they are to be placed be considered. If the glasses be placed at an angle of 45 degrees the object on the screen will appear as eight angular parts; if 60 degrees eight parts, and if 90 degrees four parts, but perhaps the best angle at which to place the glasses will be 45 degrees. For experimental purposes ordinary plain glass may be employed, provided the backs are given a coating of opaque varnish.

This appliance must be erected in front of the condenser so that the converging **rays of light** must fall just inside of the narrow end of the kaleidoscope. A lens having a focus a little longer than the length of the appliance can be used, in this instance say 8 inches. A high-class form of kaleidoscope has a lens at either end of the tube, so that the mirrors are practically within the tubing of the lens itself. Some little trouble may at first be experienced in getting it properly adjusted with regard to the light, and after the kaleidoscope is fixed it may be necessary to adjust the illuminant to and from the condenser, and also up and down and sideways, until as even an illumination as possible is obtained on the screen. It will also be necessary to exclude all extraneous light at the front of the lantern.

If any object, or a slide formed of two sheets of glass mounted close together and containing bits of coloured glass, beads, etc., be held at the large end of the tube the image will be multiplied so as to form a circle on the screen and each little movement of the object or slide will give a never-ending variety of design. As the size of the disc is doubled by this appliance the lantern must be placed in such a position as to allow for this.

Optical and Mechanical Effects for the Lantern.—No. IV.

By EDMUND H. WILKIE.

(Late Royal Polytechnic Institution).

EFFECT slides usually depict some isolated incident which is complete in itself and seldom needs description, but in this number the effects will illustrate a series of events which occurred in the life of one Gabriel Grubb, a sexton, on a certain Christmas eve, which will be familiar to those who have read Charles Dickens' delightful work descriptive of the adventures of the immortal Pickwick and his celebrated companions.

The particular entertainment for which they were designed was produced at the late Royal Polytechnic Institution by the late Mr. George Buckland, the popular musical entertainer, and consisted of a number of views and effects on the screen with occasional scenes on the stage, the story being read by the lecturer.

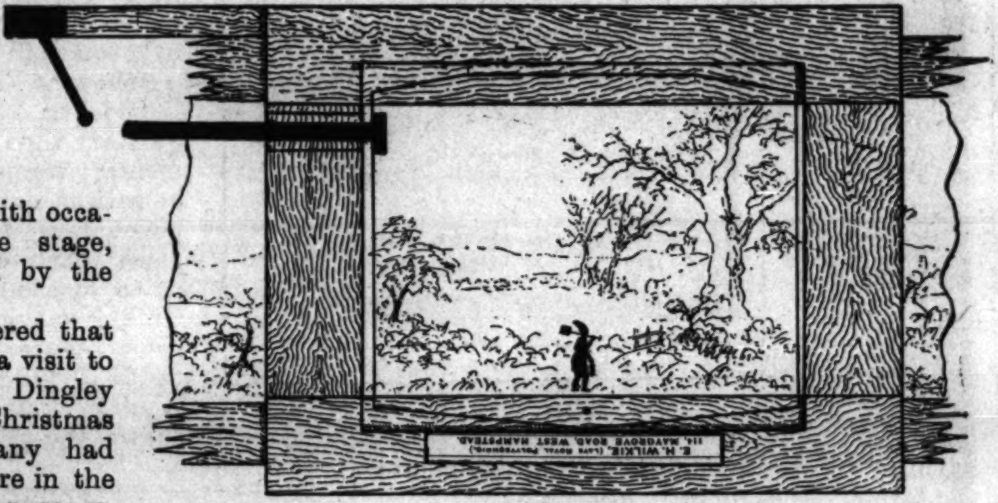

E. H. WILKIE, (Late Royal Polytechnic)
114, Maygrove Road, West Hampstead.

Fig. XI.

It will be remembered that Mr. Pickwick was on a visit to his friend Wardle at Dingley Dell Farm, and on Christmas eve all the company had drawn up round the fire in the great kitchen to sing songs, tell tales, and partake of a mighty bowl of Wassail which had been prepared in honour of the festive season. The scene representing the kitchen was thrown upon the screen, the steam from the Wassail bowl upon the table being worked by a rack effect in a second lantern, while from a third came an effect causing the fire to flicker and light up the prominent objects in the picture.

This is a simple effect and consists of a tracing from the picture blacked out and leaving only the fire itself and the high lights which are coloured in a fiery tint. It very much resembles the moonlight and sunset effects we use to light up the exterior of buildings, and this being placed in the lantern and the light turned up a very good effect is obtained by passing the fingers of the outstretched hand to and fro in front of the objective to cause a flickering motion.

While this is proceeding Old Wardle tells the story of "Gabriel Grubb" and how the goblins stole him away on Christmas eve, our picture presently dissolving into the next, which represents an old abbey town.

We are looking up the principal street with the houses on either side of us, the first on the left being the "Lion Inn," the ruddy glow from the windows contrasting with the dull evening light and heavy snow-bearing clouds overhead. There has evidently been a heavy fall of snow for the street is white, and it is heaped in the windows and doorways, and more particularly in the pump and horse trough which stand in the foreground.

The whole scene is expressive of Christmas time, an impression that is intensified by the singing of a carol behind the screen as the scene is dissolved on. In the centre stands the figure of the sexton, Gabriel, who with spade on shoulder and lantern in hand is apparently walking to the left of the picture to make his way to the churchyard. The main body of the picture is really the commencement of a panorama, which is moved along by means of a tape fastened to its lower edge and wound up by the winch handle shown in Fig. XI.

This is the most perfect method of moving a panorama, and if carefully kept in good order, and the frictional parts coated with blacklead, no screw or other motion gives so good a result or possesses so many advantages from the operator's point of view.

The figure of Gabriel Grubb is not painted on the panorama, but is drawn in very dark colours on a rocking glass fastened to the frame by a pivot just below Gabriel's feet, and if this rocking glass is gently moved to and fro as the panoramic background passes, a very perfect illusion is the result; the sexton apparently walking in a manner which, if not quite true to nature, is yet an improvement upon that particular "paralytic glide" with which figures in lantern slides are mostly afflicted.

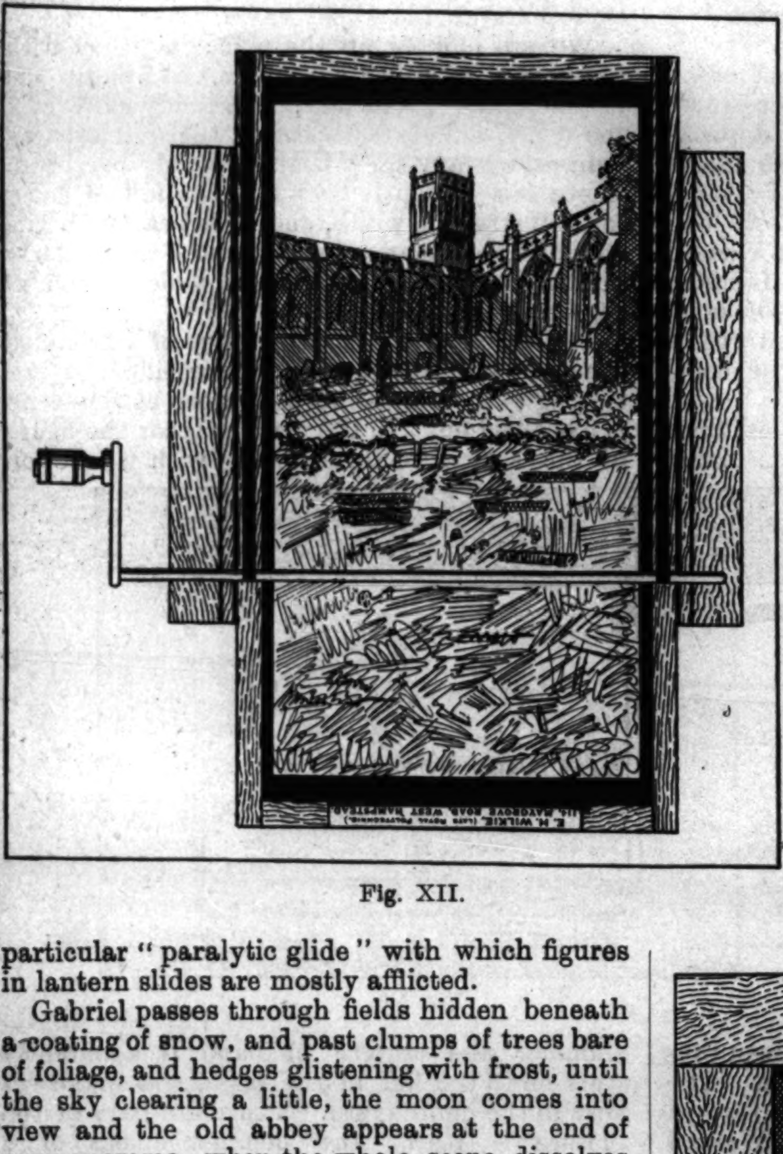

E. H. WILKIE, (LATE ROYAL POLYTECHNIC.)
114, MAYGROVE ROAD, WEST HAMPSTEAD.

Fig. XII.

Gabriel passes through fields hidden beneath a coating of snow, and past clumps of trees bare of foliage, and hedges glistening with frost, until the sky clearing a little, the moon comes into view and the old abbey appears at the end of our panorama, when the whole scene dissolves into a view of the sexton unlocking the great gates of the abbey buildings. These slide back and we next see Gabriel Grubb seated on a tombstone in the graveyard, resting from his labours and refreshing his inner man by drinking Hollands from a flat bottle, of the kind in which, we have been given to understand, a Dutchman keeps his courage.

The churchyard scene, which we represent at Fig. XII., needs a word of explanation. It is painted upon the upper half of a long glass, the other portion being occupied by the representation of a vertical section of the churchyard below the level of the ground, showing the various strata, interspersed with bones, skulls, coffins and the relics of poor humanity which go to make up "churchyard mould."

When put into the lantern this slide is wound up by the handle until the churchyard scene is in its correct place to register with the effects during the subsequent proceedings. Gabriel Grubb is then thrown on from another lantern and is seen seated on the large flat tombstone in the centre of the picture. He is painted upon a slipping slide, as represented at Fig. XIII., and when the king of the goblins appears, starts and drops his bottle, as shown in sketch.

There are many terrible things which happen to Gabriel Grubb on this eventful night which space forbids us to describe, but a very novel movement was invented by means of which a goblin vaulted over some tall monuments, and which we show at Fig. XIV.

It is an effect consisting of an ordinary slide frame with a supplementary frame pivoted to it as will be seen in our diagram, which supplementary frame has a slipping glass which can be moved up and down by the handle seen at the top. On this moving glass is painted the goblin, and when the handle is drawn up to its full extent and the supplementary frame kept in position as shown the goblin stands upon the ground, but if the handle is lowered and the frame at the same time made to assume the position shown by the dotted lines and the

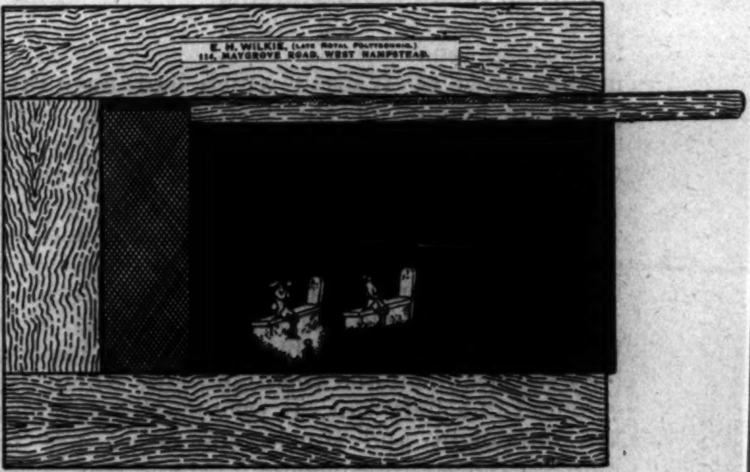

E. H. WILKIE, (LATE ROYAL POLYTECHNIC.)
114, MAYGROVE ROAD, WEST HAMPSTEAD.

Fig. XIII.

handle once more drawn up to its original position the goblin apparently rises in the air, passes over the monument, and descends to earth once more.

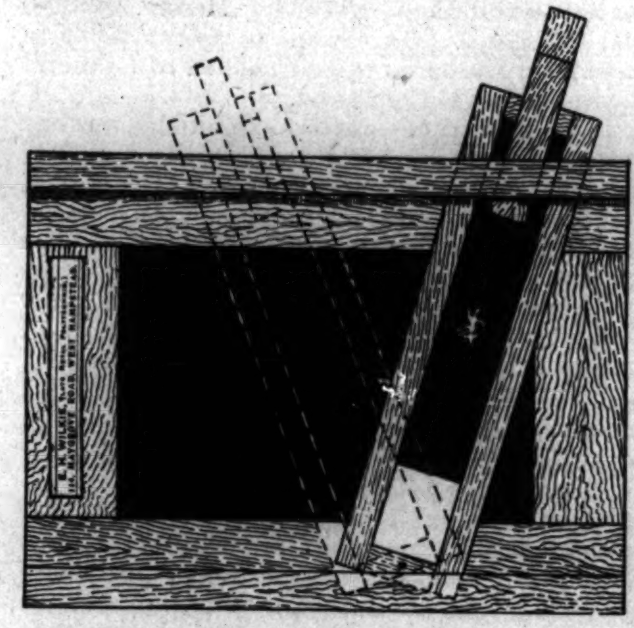


Fig. XIV.

A similar slide is ready in another lantern, but with the supplementary slide pivoted in such a position that goblin No. 2 commences exactly where goblin No. 1 left off, and if these are worked sharply it has the effect of one goblin taking two tremendous bounds completely across the picture. The effect is unique and has never been previously described, but for its perfect working it will be seen that the stages of the lantern must necessarily be quite open at the top.

One of the next incidents was the illumination of the windows of the abbey church, which was effected in the usual manner by means of an effect from a separate lantern, and following this came the apparition of a great body of "mixed" goblins, who poured out of the windows of the building and ascending in the air were lost to view. These goblins (Fig. XV.), amongst which will be noticed many of an exceedingly attractive appearance, were painted on a large circle of glass 9 inches in diameter, and pivoted through its centre upon a small screw upon which it revolved.

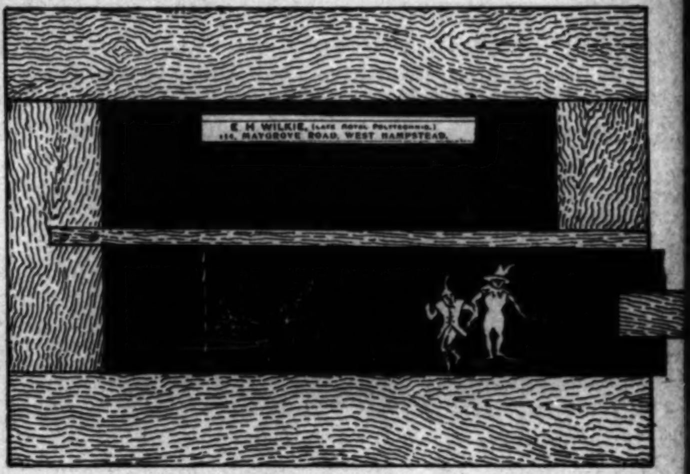

E H WILKIE, (LATE ROYAL POLYTECHNIC.)
MAYGROVE ROAD, WEST HAMPSTEAD.

Fig. XVI.

The fixed glass in this slide was blacked out in such a manner that the goblins appeared to pass out of the windows, which was accomplished by blacking out the sashes and also the surrounding walls but leaving the clear glass above, so that the goblins could be seen ascending.

While the various changes we have described were taking place, Gabriel Grubb remained seated on the flat tombstone, changing his attitude from time to time by means of a succession of slipping effects, the king of goblins keeping close by his side. But at last the goblin started up, and seizing Gabriel by the wrist (Fig. XVI.), dragged him to the newly made grave, down which they both sank; the sinking effect being realised by turning the handle in Fig. XII., when the whole of the churchyard rose and brought into view the strata below the surface. The journey continued until the goblin's cave was dissolved on, when—but what happened there I must tell you—next year.

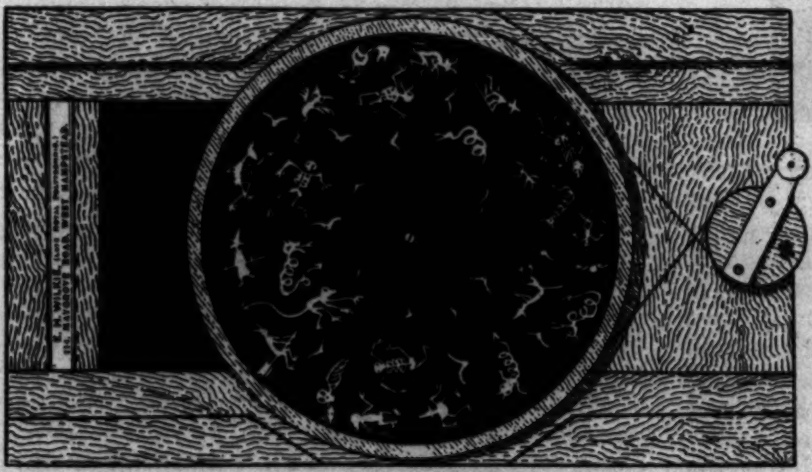
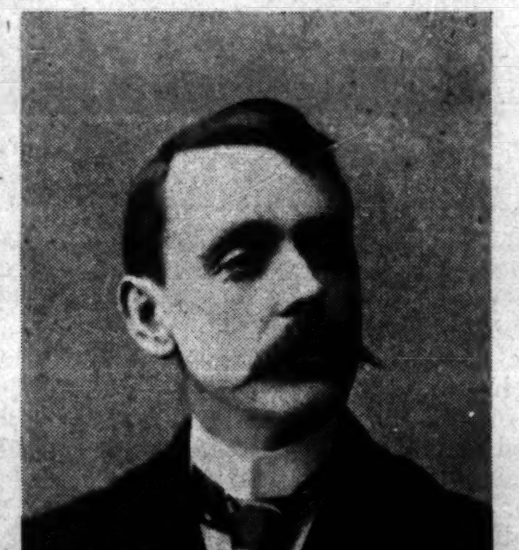


Fig. XV.

Prominent Men in the Lantern World.

No. XVII.—Mr. WILLIAM WALKER.

MR. WILLIAM WALKER, the managing partner of Walker and Company, of Aberdeen, whose portrait we give, was, we read in a book on prominent Aberdonians, born less than 40 years ago, and was reared partly in Glasgow and partly in Aberdeenshire. At the age of 13 he was apprenticed to the bookselling business in Aberdeen, and after having gained considerable experience in London he returned to Aberdeen and opened a bookseller's shop at 36, Bridge Street. In 1884 the business was reorganised and considerably increased. In the following year the firm removed to the present extensive premises, consisting of four floors, at 19, Bridge Street. Subsequently shops were opened at 71, Schoolhill and 41 and 43, Bridge Street. Steadily the ramifications of Walker and Company have grown, until now, as an establishment for sale of educational works, it is considered second to none north of Edinburgh. A lantern department, which is a very important one, has also been added.



Mr. Walker, besides being deeply immersed in business, has a hobby, which is the patriotic one of volunteering, occupying the rank of company serjeant-major; he has the privilege of wearing the long service medal. It is almost needless for us to mention the numerous optical lantern exhibitions given by Messrs. Walker and Company. On several occasions the firm have been honoured by being called to Balmoral Castle by Royal Command.

Their fine triple lantern exhibitions, marked with rare artistic skill, have been the delight of the principal mansions in the north of Scotland, and the literary concerts, such as "An evening with Charles Dickens" and the ever popular "Nicht wi' Burns," have appealed to large audiences wherever they have been announced.

The firm have also a lantern slide lending library of about 15,000 slides, and for educational purposes these slides are in considerable demand by the Aberdeen School Board, as well as other School Boards in the North of Scotland.

When animated photographs were first brought before the public Mr. Walker at once saw the opportunity for an enterprising man. A machine was purchased, and the exhibitions turned out such an enormous success that other machines and pictures had to be added, until now the firm possess cinematographic plant amounting to a large sum, while they have established a name which is popular throughout the kingdom. Local pictures have been made a speciality. In addition to several important events in various parts of Scotland the principal pictures consist of Her Majesty the Queen at Ballater, the Braemar Gathering, and Her Majesty presenting colours to the Cameron Highlanders, besides numerous other interesting subjects.

A wonderful cinematographic panorama of the beauties of Deeside was taken by Mr. Walker while sitting on the front of an engine, and the subject of our sketch claims the credit of being the first to introduce tableaux with the lantern between cinematographs.

The firm have had the honour of appearing six times by Royal Command at Balmoral Castle, a distinction of which they are justly proud. Like every other enterprising lanternist, Mr. Walker has a storehouse of interesting anecdotes of his experiences, and looks back with mixed feelings and with sympathy for the public when a modest 17s. 6d. three-wick oil lantern and four dozen transfer slides were purchased.

Mr. Walker's firm are employed by the Aberdeen Town Council, the Royal Scottish Geographical Society, and Philosophical Society, Aberdeen.

A Photographer's Tour in a Gipsy Van.—No. II.

By T. PERKINS.

THE picnic life was most enjoyable. The fresh air gave us an appetite for and relish of our simple food, that many would find absent at more sumptuous meals at home. I, who never have eaten any flesh food for many years, to which fact I attribute my wonderful health and great powers of endurance, found no difficulty in providing myself with all I needed. Tea, coffee, and cocoa could easily be made on the little oil stove we had with us. Cheese, butter, milk, eggs, bread, cakes, and vegetables could be obtained at the various villages we passed through, and delicious desiccated vegetarian soups previously bought could be heated in a saucepan. And when our meals were over the plates and other articles used were washed and put tidily away, each in its own place, for it is absolutely necessary in van life that there should be a place for everything, and everything should be in its place.

We did not follow in one particular the advice given us before starting by the lady gipsy mentioned above: "Mind you have a dog to act as scullery maid and lick the grease off the plates, for you will find it **sometimes troublesome** to get hot water; but if, after the dog has cleaned the plates, you wash them in cold water with plenty of soap they will be all right."

I was willing to try this plan, but my companion said he would prefer to undertake the extra labour of boiling the water for washing the plates and dishes, so I let him have his way.

In the district through which we passed, commons were not to be met with, nor were there wide grassy spaces by the side of the road on which we could halt for the night, so as a rule we put up our van in the yard of some village inn and our horse in its stable; the cost of this was generally about half-a crown, including the groom. On one or two occasions we were looked at with suspicion by widow landladies as scarcely respectable gipsy folk, and once it took all our most persuasive eloquence prolonged for 20 minutes, before we could overcome the prejudice against us and induce the landlady to take us in, but we established our respectability so conclusively that when we left after a two days' halt we were heartily invited to come again. We were favoured by charming weather. The early rising soon after daybreak, the morning ablutions in cold water pumped by ourselves from the village pump, the delicious breakfast of fresh eggs, coffee, and sometimes hot rolls and butter, all prepared by ourselves, were most enjoyable. Then the easy pace with plenty of time to admire all we saw and to dream in lazy fashion, our meditations sometimes aided by the smoke of the fragrant weed, an occasional halt to rest the horse and feed it from the nosebag we carried, or to drink in the beauty of some special stretch of road, or glimpse of blue sea or winding stream, or to gather some rare flower, or expose a plate, the wayside inns at which we stopped for a few minutes now and then for a glass of lemonade or a mug of cider, and lastly, the sound well-earned sleep wrapped up each in his own rug on the cushions of the van after a long day in the fresh air and an open-air address or two, are things which will long live in my memory.

For pure pleasure the most **delightful districts** for thus touring would be some woodland such as the New Forest in Hampshire, or some wild heath such as that glorious district of Egdon, in the south of Dorset, on which for a while the Southern Army was encamped this autumn, bright in summer and autumn-tide with heather and gorse, and immortalised by Mr. Thomas Hardy in several of his Wessex novels, haunted still by memories of sad fated Eustacia and Clym Yeobright and other characters drawn from rustic life in this neighbourhood, hardly known to any save those who dwell near it. Unspoilt as yet by vulgar tourists, so far from the madding crowd it lies, a long wide track of uncultivated ground, on which donkeys and heathcroppers (ponies) may at times be seen, intersected by level roads, with here and there a mass of ground rising into a hill, or a clump of firs to break the level horizon line, deep pools fringed with heather and ferns, and far off to the south the waters of the English Channel, gleaming bright beneath the sun; altogether an ideal spot for an artist, whether he works with brush or camera.

I venture to assert that a photographer who wishes to spend a summer pleasantly could do much worse than take a tour in a van such as I have inhabited this year. He would return at the end of it with increased health and vigour, many happy memories, and a goodly store of developed plates, which would be a joy for many a day to come.

Multi-Coloured Lantern Slides and Transparencies.

A WELL-MADE black tone lantern slide or transparency is undeniably a "thing of beauty and a joy for ever." But if, instead of being black, the tone is in agreement with the general characteristics of the subject, the beauty is undeniably greatly increased.

But let us evolve a little further, says Mr. Milton B. Punnett, in *Wilson's Photographic Magazine*, and, instead of a monotone, let us produce a multitone positive, with the colours of the images of the various objects constituting the subjects, if not agreeing with the original colours of the objects, at least not standing in pronounced opposition. A very simple method of producing such slides and transparencies has been worked out by the writer, and is described in the following lines:—

The principle involved is similar to that of the three-colour method, but is not so complete. As a subject worthy of a little trouble, let us take an autumn landscape. Various shades of red, green, yellow, and brown make the woods look like a mammoth crazy quilt. The fields, tired of stretching themselves, pass gently into the woods to rest and yawn beneath this variegated mantle.

Who has not seen and longed to reproduce such a landscape, if not in its

actual colours,

at least in colours which would give a better representation of nature than the usual black and white photographic processes do?

Of this subject we will make two negatives exactly alike, except that one is made on an ordinary plate, with the glass side facing the lens (reversed), and the other on an orthochromatic plate (not reversed), using as deep a yellow screen as possible with the latter. Let us call the ordinary plate our blue negative and the orthochromatic plate our yellow negative.

From our blue negative, which has been formed mostly by the action of the blue, violet, and ultra-violet rays reflected from the subject, and in which the parts of the subject reflecting these rays are represented by a more or less dense deposit, let us make, on a suitable transparency plate, a green transparency. From our yellow negative, which has been formed mostly by the action of the yellow and green rays, and in which, of course, the yellow and green portions of the subjects are represented by more or less opacity, let us make a red transparency. When the transparencies are thoroughly dry they are placed film to film with the images in exact register. We have now what looks like a single transparency, but instead of a uniform black and white, various shades of green, brown, and red relieve the eye.

The beauty of the resulting transparency can very often be greatly increased by carefully blocking out different parts of the negatives; for instance, if the grassy foreground is blocked out of the yellow negative, it allows the corresponding portion of the green transparency to stand forth, unsubdued, thus enhancing the beauty of the view by the contrast and naturalness. Some judgment and care are necessary to block out successfully, but it is not a very difficult operation, as the

opposing transparency,

like charity, will cover a multitude of sins. When the original subject is in monotone, two ordinary plates can be used without a screen, and the negatives doctored by blocking out the colours not desired. A very pleasing effect, puzzling to the uninitiated, can be obtained by making a negative, on a double-coated plate, of an interior with the camera facing a window. On another plate, without moving the camera, make a negative of the landscape seen through the window.

On the interior negative block out the part of the window corresponding to the landscape on the landscape negative, and from it make a purple or red transparency.

On the landscape negative block out everything except the window-frame, window, and landscape, and from it make a green transparency. If properly executed, we have, when these transparencies are superimposed, a purple or red interior view enlivened by the green landscape seen through the window. The process is much simpler than it appears, and if the following rules are not slighted success is certain.

1. The back of the plate, whose glass side faces the lens when exposed, should be free from all opaque or semi-opaque impurities, *e.g.*, streaks or drops of emulsion; for such will cause transparent spots on the negative.

2. Be sure to make one of the negatives reversed (glass side towards the lens), otherwise the rights and lefts of the transparencies will not coincide when they are placed film to film.

3. Before exposing this plate the camera backs should be moved towards the lens a distance equal to the thickness of the plate in

order to bring the film of the plate in the same plane which the film of the other plate occupied.

If this precaution is omitted the image will be enough larger than the other to make a perceptible difference.

4. Both transparencies should be made thinner than if they were to be viewed singly.

To mount permanently, put a drop of thick glue or paste on the four corners of one of the transparencies, lay the other on top of it, and, while holding them between the fingers and thumbs, slide them gently over each other until they are in exact register, then very carefully give them a final squeeze and lay them down flat until the adhesive has set firm.

If a matt is used it is better to paste it on the outside than to put it between the transparencies; the reason for which is obvious.

This method of making coloured slides will recommend itself especially to the professional slide-maker, for, with his negative once in proper condition, he can grind out slides *ad infinitum.*

* * *

Directions for using a Modern Triple Lantern fitted with Oxyhydrogen Light and Three Four-way Dissolvers.

By G. R. BAKER.

Gas Supply.—One half the lantern divided vertically at back is hydrogen or house gas supply pipes, etc., the other half (left) oxygen gas.

Memo.—All pipes at taps at back on right are "H."
" " " " left " "O."

The gas travels up successively to the three four-way taps or dissolvers, which are practically inlet and outlet cocks; the opposite pipes diagonally being "on or off" together. A little tap on the cross tube of hydrogen side of dissolver will, on being turned, admit sufficient gas to prevent the jets going quite out when dissolving tap is "off."

Gas Cylinders. (A 20 feet one being taken as an example.)—When full these show on being gauged about 120 atmosphere. Being of 20 feet capacity, at this pressure the contents may be known at any time by dividing the pressure shown on the gas gauge by 6—for instance, 6 into 120 atmosphere equals 20 feet, 6 into 80 atmosphere equals $13\frac{1}{3}$ feet, and 6 into 18 atmosphere equals 3 feet. When the pressure shown is less than 50 atmosphere, it is not wise to start an entertainment unless there is a reserve of gas, for it represents 8 feet only. For private exhibitions the gas may be used down to the end if necessary, although in practice one generally finishes at 6 or 8 atmosphere, that is before the last foot is used up. The screws of the hydrogen cylinder are left-handed, and therefore to tighten up must be turned the reverse way.

Those cylinders (containing coal gas) are painted red. The tube generally used for the hydrogen (or coal gas), to connect the regulator to the lantern supply tube, is of red india-rubber, and that for oxygen, drab.

Regulators.—To see that no leak is taking place after screwing the regulator on to the cylinder, put the finger over the outlet pipe of regulator and turn on the gas at the cylinder. If there is a leak a hissing noise will be heard, and the valve of cylinder must be turned off again and all joints tightened up. If there is no hissing, then the regulator may be known to be working properly by simply removing finger from outlet tube for a second and replacing it again, for the bellows will be heard to work and the gas will come out when outlet is uncovered, and stop when covered.

Gauge.—It is optional whether this is kept on all the time. Some lanternists like it, but there is no necessity if you know you have plenty of gas at starting, and all joints of apparatus and india-rubber tubes on pipes are sound and gas-tight. Rubber tubes get hard with age, and sometimes it is necessary to cut off an inch to get a gas light connection.

Gland Nut of Cylinders.—This must be tightened up now and then, otherwise when unscrewing the valve for turning on the gas, the gas may escape round the spindle.

Key and Spanner.—A "T" key for opening the valve of cylinders is generally supplied, or a lever key may be preferred, and there should be a spanner for the gland nuts. All being ready as far as gas and tubing are concerned, the fitting up can be proceeded with, and the red tubing fitted to the right hand supply pipe (from hydrogen cylinder, of course), and the drab tubing to left supply pipe (oxygen). An easy way to get the india-rubber on the brass or other pipes is to slightly moisten the ends of the metal tubes with water or saliva on the finger.

Jets.—The stop cocks must all be off to start with, and the dissolver handles or levers horizontal if of the horizontal or double pattern, and vertical if single lever; the gas will now be under control at the apparatus and may be turned on from the cylinders.

Amount to Turn on Cylinder Valve.—It will be found that it is only needful to open the valve half a turn of the key to get all the gas necessary (*i.e.*, through about 180 degrees) to last for an entertainment of 2 hours.

Limes.—When taken out of box (after passing a knife round to score off the cement and lifting the lid) the limes are put on the lime pins, which are controlled by the milled head rods or lime turners. The position for this is such that the gas impinges on the lower part of lime so as to work upwards on rotation.

Jets.—The sliding mount must be adjusted so that the limes can be turned without their fouling the nipple of jet. $\frac{1}{32}$ or $\frac{1}{16}$ is generally the best distance away. A cut-off for the light is arranged by turning the lever of four-way dissolver to its particular jet, so there is no advantage in having one on the jet in this form of lantern. The rising screw and lateral and vertical clamp explain themselves so that they will be understood at sight, the only thing to remember is to unclamp the screw on upright rod of tray before adjusting the rising screw of support.

Lighting Up.—Turn on the hydrogen tap a little and light up by means of a match. If the flame is much above the lime turn it down at the tap until it is $\frac{1}{2}$ inch or so above, then turn the lime round backwards and forwards so as to get it thoroughly warmed. Now turn the dissolving tap lever up or down and see if the gas goes out, when the bye-pass on hydrogen side of dissolver is only on a little way; if it does, turn on this small tap a little more and light up again; the bye-pass tap on dissolver must be regulated so that a bead of gas is left burning when the dissolving lever is either up or down. Now again set the double lever handle horizontal, or single one vertical, and turn on a little oxygen by the oxygen tap of jet, then a little more hydrogen by hydrogen tap of jet, again a little more oxygen and then more hydrogen, until the maximum light is obtained without roaring. Turn the lime every 2 minutes or so. Now move the lever so that jet is off. Adjust the other two jets in same way, also the two dissolvers as regards the bye-pass. Special note.—The bye-pass tap of dissolver on oxygen side must always be *off* when using mixed gas jet. It is only required to be on a little way with blow-through jet when the house gas is used direct from the house supply.

Adjusting Front and Centering Light. — When light is satisfactory, get the disc of middle lantern correct by raising or lowering jet until the centre is the most brilliant part of disc, then draw back the jet or push it forward until the field is even and white. Then put a slide in the lantern and focus, taking care that the jacket of front lens is about half-way racked out and getting the proper length of front for the lens employed by drawing out the telescopic tubes. In this way a rough focus can be obtained, the fine one being secured by the rackwork. Re-adjust light if necessary. Angle the bottom and top lantern fronts by the hinged plates until the discs superimpose. Re-adjust light to make disc equally clear, first getting the bottom lantern right, then the top. The screw washers on screw pins behind the brass-hinged plates are for clamping up when the correct angle for coincidence of disc is obtained. Great care must be taken to see that each lens is in proper focus, also that the position is maintained in the tube, for with front lenses to pull out to interchange they may be put back in a different position, and so upset the centering. A pin or arrow should mark the correct position, or collimation as it is called, for a partial rotation disturbs coincidence of projected discs.

Registering Stages.—Put one of the crosses in the middle stage with the brass edge downward, and brass end to come against the registering stop. See that lantern is so supported on its stand or box that the vertical line is upright and the cross one horizontal. Now put another registering cross in the lower lantern, having the light on this as well as the middle, and turn the small screws below the runner slightly until they agree with the cross slide in middle lantern on the screen. The adjustment of stop will make the vertical lines agree. Take the registering cross out of the bottom and put it in top lantern stage, and adjust the screws in runners in the latter until the horizontal line agrees with the middle lantern projection of this line on the screen, and then by the adjusting end stop of stage and clamp nut, move the frame until the vertical line agrees also. If the movement of screws in runners has to be considerable before the lines can be made to agree horizontally, then move the stage plates by adjusting the screws and clamps of hinged plates; but in a good apparatus, as sent out by the makers, very little modification will be wanted with the 6-inch (compound) lens fitted to the front when used in a moderate size room. In a different size room a slight adjustment may be necessary, which can be obtained by the hinged plates.

Effect Slides. — These should all be specially registered, for as sold ordinarily from stock they are not so. After being registered, all that the operator has to do after getting the apparatus adjusted as above is to insert the slide with the label upright and nearest the light and push it in dead against the stop and fairly down on runner for it "to register." With the long panoramic slides the operator has to turn aside the stop at other side of stage to allow the frame to pass, and then an abutment stop on the bottom of frame comes against the end of runner nearest the operator.

Curtain Shutter.—The scene or view, curtain, etc., to be rolled up must be in the middle lantern and the one to be revealed in the top. The proscenium for statuary, etc., being in the lower lantern, the slip plate on metal curtain frame adjusts the dark line dividing the two pictures affected by curtain.

P.S.—In some makes of bi-unial and triple lanterns the hydrogen taps are on the left, therefore with such, in reading the above instructions, the word "right" will be "left."

Failures and Mistakes.—No. II.

By E. DUNMORE.

A NEGATIVE can scarcely be judged until it is printed, and one that may be looked on as a failure may turn out quite the contrary, as promising ones in appearance may disappoint. A failure resulting from a careful try is nothing less than a stepping stone to success. I may be wrong, but it seems to me now that the estimation of a successful picture hinges on its artistic qualities; the standard of excellence is as high as it is ever likely to be, no matter what changes take place in opinions and ideas, drawing and composition remains the same, regulated by the same rules and influenced by the same ideals.

We have only to look over old photographs to see that want of art feeling is almost universal; evenness and definition may leave nothing to be desired in that direction. In portraiture the pedestal, curtains from the sky, with impossible landscapes and marble halls quite out of drawing were almost universally adopted as accessories. A chair and cabinet usually figured somewhere in the photograph, and as a rule more conspicuous than the portrait itself. The vignette style of portrait fortunately did away with a great deal of these abominations, but even now there is room for improvement in this direction. The reason for their use was chiefly because eminent painters used such accessories, but the difference was that with paintings such designs were used to introduce colour, and the lines to balance lines on the portrait.

The same class of designs for backgrounds and accessories was adopted by photographers and were used with all sorts of portraits indiscriminately. At the same time the reason of their use in paintings was entirely overlooked, thus rendering their adoption in the majority of instances absurd. The curtain and pedestal are not entirely eliminated even now, but as a rule more judgment is shown in their use at any rate. This subject has received attention many times, so it is needless for me to make further reference to this phase of photography any more than as failures that are gradually being appreciated and remedied.

Although photographic failures begin with the negative, the completion of the process on the positve print is perhaps open to more chances of going wrong. It has always been a puzzle to me why the printing should be considered of such secondary importance when the whole value of the negative depends on it. More attention has been given of late years to this part of the work, but not so long ago mere boys were considered good enough for printing after being just shown what they were to do in a mechanical sort of fashion, but judgment and skill were considered unnecessary except in the very least degree. More failures, I believe, result from bad printing than

bad negatives

at the present time, although there is no lack of bad negatives. For some reasons it is to be regretted that the P.O.P. has superseded the albumen papers, as the quality of prints on good albumenised paper well printed are, I fancy, more than equal to those on gelatine, and certainly do not offer such a premium for poor negative work as the modern papers do.

Of course this is a mere matter of opinion on the generality of the photographs produced, for occasionally most beautiful work is made, especially on the matt surfaced papers—work that leaves very little to wish for in the matter of printing; in all probability the negatives from which the prints were taken were also above the average. Although it is always advisable to take an impression from a negative in the first place without dodging or altering the negative in any way, it rarely happens that the best results can be had without doing something to modify it.

One effect of only making these proof copies, is, that much work is shown as complete that does not show what the negative is capable of making and possibly such might be classed as failures that if the negative had been slightly altered might have been quite another category, so little is required to make or mar a picture. Vignetting is perhaps one of the most difficult styles of printing to the average amateur, and possibly more failures exist in this direction than most others. A good vignette is an exhibition of artistic skill entirely dependent on the operator, and, as far as the result goes, quite independent of both negative and papers. To graduate the margins of the picture so that a proper balance of light and shade is retained with a suitable softening off into the grounding requires the exercise of considerable judgment and ability.

A bad vignette is always as offensive to good taste as a good one is satisfying, every variety of subject requires special treatment and a shape to itself. The old-fashioned way of having an oval shaped vignette for everything ought by this time to be quite obsolete. Unfortunately it is still very much in evidence, as is also the smooth abrupt edge vignette, that ought, I think, to be classed as failures of the first degree.

Failures in printing landscapes are far from rare, the colour and depth of printing leaving much to be desired, but frequently a good subject is spoiled by over printing the clouds when they have been added from another negative. Of course as it is impossible to get either light or shadow with anything like the intensity of nature, we must effect a compromise. Still, the same proportionate depth of printing which apparently exists in nature should be maintained between the clouds and the landscape in the photograph. That the darkest part of the clouds should rarely exceed a

medium tint

in the landscape is a tolerably safe rule to go by, for no matter how excellent the cloudscape may be, too deeply printing will utterly destroy its value when added to the landscape.

It is bad enough to see a print with over-printed clouds, but when exhibited on the lantern screen we notice the mistake much more, and once seen should act as a caution for the future. Heavy clouds overlaying light objects on the land, giving the appearance of transparency to church spires, chimneys, and trees, is simply ridiculous, as much as when these objects are improperly shaded, so that a white halo surrounds them, showing at once that the sky and landscapes were not taken together, but look like an improperly put together puzzle. Everything else being correct, too darkly printed clouds will ruin the best picture. Much stress has been laid on the absurdity of the clouds being lighted from one direction and the landscape from another. There is, of course, truth in this, but unless the lighting is very pronounced and the clouds aggressive, it is often impossible to say how the clouds were lighted, whether in the same direction as the landscape or not, by mere examination of the photograph. I have several times heard criticisms passed on such pictures, when clouds and landscapes were taken at one exposure, as being contrary to nature—and these remarks by experts, too—which confirms me in the idea that some deviation from absolute truthfulness in this matter is of very little consequence. The causes that render a just and correct judgment so difficult are several. One is that when clouds are added to a landscape judiciously they are printed in much lighter than if it was a cloud study alone. This will not produce clouds full of that wonderful detail and crispness that exists in them, setting aside the extreme difficulty of obtaining a negative, in the first place, that will contain all the beautifully delicate shades and tints of natural clouds as we may see them.

Until orthochromatic plates and screens were invented it could not be done at all with anything like an approach to reality; even now it is a rare thing. Supposing clouds were the principal and not the subsidiary motive of the picture, the plea of expediency would not be admissible, as it is when they are only required as accessory to improve the more important part of the design, and not in any way to challenge attention on their own merits. Photographers are practically compelled to content themselves with the compromise, which take it all in all, is fairly satisfactory.

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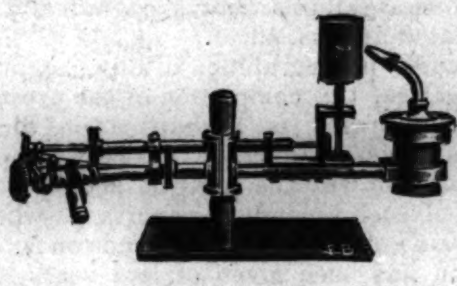
NEW APPARATUS.

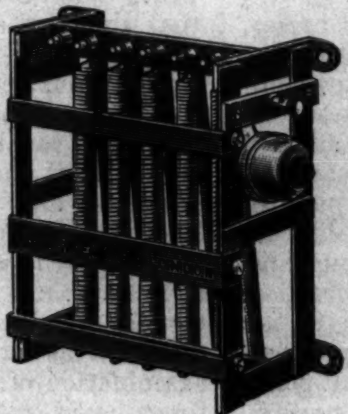
F.B. JET.

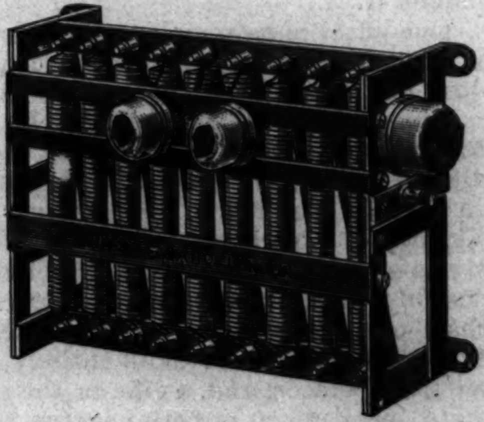
We have lately been using the F.B. high-power jet, which is made by Mr. F. Brown, of 13, Gate Street, London, W.C. With regard to rigidity, a departure has in this case been made with regard to the jet pin—it being made of stout material of large diameter, so that when attaching the jet it holds on with great tenacity, and, owing to the long clamp which is accurately fitted to the pin, the various adjustments of the jet are rendered simple, smooth and effective. The mixing chamber is a large one and is so arranged internally that the two gases are thoroughly intermingled. In light-giving properties this jet is practically all that could be desired; either when used with the two gases or with an ether saturator the light is steady and absolutely quiet. Immediately behind the lime pin is a screw bushing (split) so that when the jet is used in connection with cinematographic work this can be tightened up so as to prohibit the vibrations of the machine from causing the lime to move from the position in which it has been set by means of the thumb-screw behind. A thumb-screw also controls the distance of the lime from the nipple. Screw down taps are provided on this jet. For efficiency both as to manufacture and for use this jet will be hard to beat.



STEWARD'S IMPROVED RESISTANCES.

Mr. Steward, of 406, Strand, has now ready his improved portable resistance for electric lamps. The frame, which is light and strong, is of iron, the resistance being of platinoid or manganese wire. This apparatus is made in two forms and sizes as shown. The smaller for use with the arc lamp on a current of about 100 volts. The larger is a variable resistance and is provided with a switch for cutting off the current, also switches controlling certain of the coils so as to increase the intensity of the light. These are specially suitable for use with the cinematograph, microscope, etc.





THE BIRTAC.

The word Birtac will hardly convey any definite meaning with regard to any apparatus, so it must be explained that it is formed from the name of Mr. Birt Acres, of the Northern Photographic Works, Limited, High Barnet. Mr. Acres applies this name to a species of drawing room cinematograph which he has lately devised, and explains that the apparatus is to be known as the Birtac. To Birtac will be to use the Birtac in action much in the same way as the word Kodak has lately been applied. The Birtac apparatus includes a small sized machine whereby small pictures are exposed, printed, and in turn projected on a small screen. The film for use in this machine is perforated on one side only. For exposing purposes the camera can be loaded in daylight, as the film is contained in a box. To the end of the film is attached a length of black paper which winds up over the exposed film. On a length of 20 feet 640 pictures can be printed, and this Mr. Acres states he intends to supply for the nominal sum of 2s. 6d. The form of light employed is a modification of the Welsbach burner with an exceedingly small mantle, and by an arrangement of automatically increasing the pressure of house gas, one is enabled to produce an intense light, which in appearance might almost be mistaken for limelight.

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Editorial Table.

Photo-Micrographs as Lantern Slides.—Mr. R. G. Mason, of 69, Park Road, Clapham, London, S.W., has placed upon the market a number of interesting sets of lantern slides taken from photo-micrographs illustrative of the following:—"Anatomy of the Honey Bee," 18 slides; "Anatomy of Blow Fly," 9 slides; also a series of slides on microscopic marvels, which includes 76 slides. These may be obtained at 1s. 3d. each.

New Kodak Price List.—This new list, which is printed on splendid paper and is excellently arranged, gives details of the various Kodak family of cameras and films; also details of the numerous printing papers of which the company make a speciality.

Vitrose Films.—Rigid Vitrose films for photographic use have been brought out in this country by Messrs. Fuerst Brothers, of Philpot Lane, E.C. Each film is supplied in a neat cardboard sheath or carrier, so that they are at once ready for cameras of the magazine class. The carriers themselves can be used several times.

Lantern Slides by Stabb.—Mr. John Stabb, of 152, Kensington Park Road, Bayswater, W., has sent us a selection of the slides which he is advertising. The slides before us, which are of cathedrals, are particularly clear in the finest details, are very interesting, and of pleasing tone. They show the results of care and skill.

Harrington's Price List.—We have received the latest price list of Messrs. Harrington Brothers, 4, Oliver's Yard, City Road, London, who deal in fine chemicals.

"How to Make Lantern Slides." London: Dawbarn & Ward, Limited, 1s.—In writing this book the author, Mr. S. L. Couldhurst, has taken particular pains to make everything as simple and distinct as possible, so that there may be no misunderstanding as to technical phrases.

"Photograms of 1898." London: Dawbarn & Ward, Limited, 2s.—This well-printed and illustrated work by the editors of the *Photogram* forms a pictorial and literary record of the best photographic work of the year. The following countries are included:—New Zealand, Canada, France, United States, and Great Britain. It is a fine work for reference, and should be in the hands of all lovers of art.

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PATENT INTELLIGENCE.

The following List, relating to current Patent Applications, is compiled expressly for the "Optical Magic Lantern Journal" by W. P. Thompson & Co., Patent Agents, of 322, High Holborn, London, W.C., to whom all enquiries for further information should be addressed.

No.	Recent Patent Applications.
21853.	17th October, 1898. Charles M. Hollingsworth. Structures for scenic and panoramic effects.
21854.	17th October, 1898. Charles M. Hollingsworth. Mechanism for producing composite rotary motion for spectacular or amusement purposes.
21961.	18th October, 1898. William Morris Morley. Improvements in electric arc lamps specially suitable for projectors.
22019.	19th October, 1898. James Henry Watson and Joseph Dawson. Improvements in acetylene gas lamps and generators.
22054.	20th October, 1898. George Bray and John William Bray. Improvements in burners for acetylene gas.
22228.	22nd October, 1898. Frederick William Barratt. An improvement in acetylene lamps.
22301.	24th October, 1898. Sydney Smith. Improvements in acetylene gas lamps.
22552.	26th October, 1898. Henry Charles Rheinlander and Alfred Wrench. Improvements in or connected with cinematographs.
22631.	27th October, 1898. Alfred Wrench. Improvements in or connected with cinematographs.
22713.	28th October, 1898. Paul Mortier. Improvements in kinematographic apparatus.
22826.	31st October, 1898. James William Bailey and John Clapham. Improvements in apparatus for generating acetylene.
22903.	1st November, 1898. George Haydon and Haydon & Urry. Improvements in or in connection with kinematograph and the like apparatus.
22922.	1st November, 1898. John Edward Smith. Improvements in apparatus for the generation and storage of acetylene gas.

22976. 1st November, 1898. Lucien Reulos. Improvements in kinematographs.

23008. 2nd November, 1898. Leopold Morris. Improvements in generators and lamps for acetylene.

23011. 2nd November, 1898. Edmund Hunt. Improvements in apparatus for photographing and reproducing moving or stationary objects with or without colours.

23055. 2nd November, 1898. William Starley and Phillip Dingley. Improvements in apparatus for exhibiting animated photographs.

23099. 3rd November, 1898. Eduard Holmes. An improved automatic shutter to cinematograph to prevent accidents by fire to films.

23130. 3rd November, 1898. William Ford Stanley. Improvements in apparatus for representing life movements by means of rapidly changing photographic pictures.

23158. 3rd November, 1898. Henry William Short. Improvements in kinetoscopic apparatus (the filoscope).

23169. 4th November, 1898. Richard John Moss and Samuel Arthur Timmins. Improvements in acetylene gas lamps.

23385. 7th November, 1898. Julius Carl Hermann Möller and Carl Wilhelm Christian Ludwig Schaefer. Improvements in acetylene lamps.

23399. 7th November, 1898. Jasper Wetter. Circular shutter for optical reflectors, projecting lanterns, and analogous appliances.

23591. 9th November, 1898. Alfred Darling and Alfred Wrench. An improved camera and apparatus for producing cinematograph and other pictures and for exhibiting cinematographic pictures.

SPECIFICATIONS PUBLISHED.

Copies of the following specifications may be obtained by remitting 1/- for each specification to W. P. Thompson & Co., Patent Agents, 322, High Holborn, London, W.C.

24273 of 1897. Edwards. Operating the films for animated photography and apparatus therefor.

2863 of 1898. Ferguson. Acetylene gas generator.

26269 of 1897. Arkell, Bailey and Clapham. Apparatus for use in the production of acetylene.

27542 of 1897. Newman and Newman and Guardia, Limited. Kinematograph apparatus.

11219 of 1898. Boult (Campbell). Kinetoscopes.

18346 of 1898. Newton and Ives. Lanterns for scientific purposes.

18543 of 1898. Bilbie and Drivet. Acetylene generators or lamps.

24804 of 1897 Hymmen. Pictorial cards or strips, applicable for postcards, panoramas, kinetoscopes, cinematographs, books, albums, and the like.

2078 of 1898. Holliday and Read, Holliday and Sons, Limited. Lamps or apparatus for use in burning acetylene gas.

17327 of 1898. Spence and The British Acetylene Gas Generator Company, Limited. Acetylene gas lamps.

441 of 1898. Moon. Animated photograph machines.

18128 of 1897. Goulding. Apparatus employed in the production of acetylene gas.

27689 of 1897. Roxburgh. Acetylene generator for cycle, motor car, carriage, table and every class of lamp.

Notes and Queries.

R.—Cakes of oxygen-producing mixture can be obtained for the purpose.

B. S. T. and others.—We learn that Mr. Tylar, of Birmingham, is getting on with the Aladdin acetylene lamp for lanternists, but surmise that it is not yet ready, for the one which was being altered for us has not yet been completed. We will let you know as soon as we again try it.

Wood Brothers.—See page 153 of our October issue.

Railway.—(1) Certainly there is danger in using the same gauge for both oxygen and hydrogen. You speak of there generally being a mixture of gases in the chamber of a jet, but this is quite a different matter from the danger point of view. In the former case there is the sudden heat from the impact to be dealt with when the gas is under great pressure. Messrs. Clarkson make a filled gauge which is safe to use with both gases, as the gas does not actually enter it, but merely acts on a springy mixture with which the gauge is filled. This gauge is of the Bourdon type. (2) Nothing of any importance is being done, but we think the railway restrictions will in time become a dead letter.

Gordon Howard.—We cannot insert a letter such as you send. Any expression of opinion with respect to the burner must come from ourselves. If you like to send one on, it will be tried and commented upon.

H. H.—(1) The acetylene generator about which you enquire is of the floating bell principle, and is quite safe under ordinary circumstances. (2) One burner about 60 candle-power, two about 100, and three about 215. (3) The incandescent equals about 60.

T. A. Dudley.—The Stocks' lamp has a telescopic chimney, which is extended as the flame burns up. This is with the view of giving increased draught and preventing smoking.

W. P. Scott.—The details you supply are not very full, and ere you supplied fuller particulars several months would pass by owing to distance. You might, however, try slightly closing the tap between the oxygen supply and the saturator. If the same conditions again happen, turn off the direct oxygen, and if the lime is rendered incandescent from the saturated gas only, it indicates that free oxygen is passing through the saturator; consequently the charge of ether in same is more or less exhausted.

W. Blake, jun.—We think you must be mistaken in the name of the firm you mention.

Rev. W. T. R. C. (Isle of Ely).—We can only refer you to the past two volumes of this journal, in which you will find many valuable articles upon the subject.

A. S.—(1) If the tubing be of the proper size it will hold at connections without tieing; if it gets stretched too much cut an inch off, and it will again hold. (2) It is quite possible to show development on screen; use a Ruby tank, and see that no traces of white light get at the plate.

J. W. M., F. J. Scrimgeour, Satyros.—In our next.